

A PACKAGE WITH PILFER PROOF ASSEMBLY**CROSS-REFERENCE TO RELATED APPLICATION**

[0001] This application claims priority to co-pending U.S. Provisional application 60/528,043, filed on December 8, 2003. The entire disclosure of that prior filed application is hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] The present invention relates generally to the field of product packaging, and in particular to product containers having an internal locking mechanism and pilfer proof assembly.

BACKGROUND OF THE INVENTION

[0003] Product packaging serves a number of important functions, including: protecting the packaged product from damage; attractively displaying the packaged product; preventing theft or tampering, and providing the purchasing consumer easy post-purchase access. In addition, it is desirable for a package to be as inexpensive as possible to manufacture.

SUMMARY OF THE INVENTION

According to a first aspect of the invention there is provided, a product package, comprising: a product container having an external mating surface; and an outer sleeve retaining said product container, said outer sleeve also including an internal opposing mating surface engaging said external mating surface of said product container, wherein a portion of the outer sleeve provides a barrier preventing access to the internal opposing mating surface.

Preferably, the external mating surface is a tab and said internal opposing mating surface is a recess.

Preferably, the external mating surface is a recess and said internal opposing mating surface is a tab.

Preferably, the tab is resilient.

Preferably, the outer sleeve is resilient.

Preferably, the tab and said outer sleeve are resilient.

According to a second aspect of the invention, there is provided a product package, comprising: a product container having at least one external tab; and a resilient outer sleeve retaining and substantially enclosing said product container, said resilient outer sleeve further including at least one corresponding tab receiving recess matingly engaging said at least one external tab, wherein a portion of the resilient outer sleeve provides a barrier preventing access to the tab receiving recess.

According to a third aspect of the invention, there is provided a product package, comprising: a product container having at least one resilient external tab; and an outer sleeve retaining and substantially enclosing said product container, said outer sleeve further including at least one corresponding tab receiving recess matingly engaging said at least one external tab, wherein a portion of the outer sleeve provides a barrier preventing access to the tab receiving recess.

According to a fourth aspect of the invention, there is provided a product package, comprising: a product container having at least one resilient external tab; and an outer sleeve having at least one opening configured to enable said outer sleeve to slide over said product container to retain and substantially enclose said product container and having at least one corresponding internal recess matingly engaged with said at least one resilient external tab, wherein a portion of the outer sleeve provides a barrier preventing access to the internal recess.

According to a fifth aspect of the invention there is provided, a product package, comprising: a product container having at least one recess in its outer surface; and an outer sleeve having at least one opening configured to enable said outer sleeve to slide over said product container to retain and substantially enclose said product container and having at least one corresponding resilient internal tab matingly engaged with said at least one recess in the outer surface of said product container, wherein a portion of the outer sleeve provides a barrier preventing access to the resilient internal tab.

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According to a sixth aspect of the invention, there is provided a method for packaging a product in a product container, comprising the following steps: placing the product in the product container having at least one external mating surface; inserting the product container into a product packaging enclosure of a shape suitable for retaining and substantially enclosing said product container, said product packaging enclosure having at least one corresponding opposing mating surface; and engaging said at least one external mating surface and said at least one corresponding opposing mating surface to lock the product container in position within said product packaging enclosure, wherein a portion of the outer sleeve provides a barrier preventing access to the opposing mating surface.

Preferably, the external mating surface is a tab and said internal opposing mating surface is a recess, and said step of engaging said at least one external mating surface and said at least one corresponding opposing mating surface to lock the enclosure in position includes inserting said tab into said recess.

Preferably, the tab is resilient, and said step of inserting said product container into said product packaging enclosure includes deflecting said tab as the product container is inserted into the product packaging enclosure and allowing said tab to spring back upon insertion into said recess.

Preferably, the outer sleeve is resilient, and said step of inserting said product container into said product packaging enclosure includes deflecting said product packaging enclosure to pass over said tab as the product container is inserted into the product packaging enclosure and substantially restoring said product packaging enclosure to its intended shape in order to enable said tab to lockingly engage said recess.

Preferably, the tab and said outer sleeve are resilient, and said step of inserting said product container into said product packaging enclosure includes deflecting said tab and deflecting said product packaging enclosure as the product container is inserted into the product packaging enclosure and allowing said tab to spring back upon insertion into said recess and substantially restoring said product packaging enclosure to its intended shape in order to enable said tab to lockingly engage said recess.

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Preferably, the external mating surface is a recess and said internal opposing mating surface is a tab.

Preferably, tab is resilient, and said step of inserting said product container into said product packaging enclosure includes deflecting said tab as the product container is inserted into the product packaging enclosure and allowing said tab to spring back upon insertion into said recess.

Preferably, the outer sleeve is resilient, and said step of inserting said product container into said product packaging enclosure includes deflecting said tab and deflecting said product packaging enclosure as the product container is inserted into the product packaging enclosure and allowing said tab to spring back upon insertion into said recess and substantially restoring said product packaging enclosure to its intended shape in order to enable said tab to lockingly engage said recess.

Preferably, the tab and said outer sleeve are resilient, and said step of inserting said product container into said product packaging enclosure includes deflecting said tab and deflecting said product packaging enclosure as the product container is inserted into the product packaging enclosure and allowing said tab to spring back upon insertion into said recess and substantially restoring said product packaging enclosure to its intended shape in order to enable said tab to lockingly engage said recess.

According to a seventh aspect of the invention, there is provided a product packaging assembly to prevent product pilfering, comprising: a molded tray shaped to contain a specified product and having at least one indentation disposed along at least one edge to function as part of a locking mechanism; and a sleeve retaining said molded tray having at least one extended tab disposed along an internal edge matingly interlocking with said at least one indentation, wherein a portion of the sleeve provides a barrier preventing access to the extended tab.

Preferably, the molded tray has at least one depression disposed along one end of the molded tray to prevent access to the contents while said molded tray is locked within said sleeve.

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Preferably, the molded tray is comprised of halves, each of which incorporates at least one shaped receiving cavity in order to substantially surround the specific contents when the halves are folded together.

Preferably, the external sleeve is formed by a single piece of material folded over itself and secured at the external edge.

Accordingly to an eighth aspect of the invention, there is provided a packaging assembly to prevent product pilfering comprising: a molded tray shaped to contain a specified product and having at least one tab disposed along an edge to function as part of a locking mechanism; and a sleeve retaining said molded tray having at least one corresponding indentation disposed along an internal edge of said sleeve matingly interlocking with said at least one tab, wherein a portion of the outer sleeve provides a barrier preventing access to the indentation.

Preferably, the molded tray has a plurality of shaped receiving cavities to hold specific contents.

Preferably, the molded tray has at least one depression disposed along at least one end of the molded tray and at least one depression disposed along at least one end of the molded tray to prevent access to the contents while said molded tray is locked within said sleeve.

Preferably, the molded tray is comprised of halves, each of which incorporates at least one shaped receiving cavity in order to substantially surround the specific contents when the halves are folded together.

Preferably, the external sleeve is formed by a single piece of material folded over and secured at the external edge.

According to a ninth aspect of the invention, there is provided a packaging assembly to prevent product pilfering comprising: an outer sleeve of tapered shape configured so that the openings of the sleeve are different sizes and containing at least one notched internal edge; and a clamshell molded tray configured to fully enclose a specific product and to be partially inserted within said outer sleeve, said tray having at least one extended tab matingly engaging with said at least one notched internal edge of said outer sleeve, wherein a portion of the outer sleeve provides a barrier preventing access to the notched internal edge.

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Preferably, the outer sleeve is comprised of a single piece of material folded over and secured at the external edge.

According to a tenth aspect of the invention, there is provided a product package comprising a complementary locking mechanism, wherein the package comprises a product container having a first part of a complementary locking mechanism and an outer sleeve comprising a second part of a complementary locking mechanism such that the complementary locking mechanism prevents the product container from being slidably moved within the outer sleeve wherein a portion of the outer sleeve provides a barrier to prevent access to the complementary locking mechanism to prevent tampering with the complementary locking mechanism.

Preferably, the outer sleeve is formed from a single unitary blank wherein the single unitary blank comprises the second.

Preferably, the first part of the complementary locking mechanism is a recess.

Preferably, the first part of the complementary locking mechanism is a protrusion.

Preferably, the second part of the complementary locking mechanism is a recess.

Preferably, the second part of the complementary locking mechanism is a protrusion.

[0004] The present invention fulfills the needs identified above by providing packaging comprising a product container for protecting the product from damage and attractively displaying the product, retained within an outer sleeve to prevent theft or tampering. The present invention includes an interior product container having a mating surface on the exterior of the product container and an outer sleeve having a corresponding opposing mating surface on the interior of the outer sleeve for locking the outer sleeve in position around the product container to prevent theft or tampering.

[0005] In exemplary embodiments, the mating surfaces include panels, tabs, ribs, catches, abutments, edges, cutouts, apertures, and like elements, integral to or attached to either a card or tray, configured to connect with similar complimentary elements associated with an outer sleeve, and referred to herein as the mating surfaces.

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[0006] An embodiment of the present invention comprises a tray with an engaging tab and a sleeve with a tray receiving area. At least one pre-formed tray, configured with a receiving cavity to receive and hold at least one portable item, may be locked into the tray receiving area. An outer sleeve configured to receive the tray into a tray receiving area has disposed along it a locking edge configured to engage a tab at a locking position. A tray may be fully or partially inserted within the void defined by the outer sleeve.

[0007] Another embodiment comprises a tray with a recess to receive a locking tab and a sleeve with a locking tab. This tray has disposed along an edge an indentation to receive a locking tab. The outer sleeve defines a void configured to receive the tray, and has a locking tab to engage the indentation in the tray.

[0008] Other embodiments of the present invention include improved components, such as a monolithically fabricated tray. Here, a tray may be fabricated from any forming technique or process known to those skilled in the art, including but not limited to thermoforming, vacuum forming, and injection molding. The tray comprises at least one recessed cavity configured to receive and hold a product. The tray may also be formed by two hinged halves to fully enclose the product.

[0009] In practice, the embodiments of the present invention are configured to resist access to an item by securing the item in a locking package. A method for resisting access to an item secured in an embodiment of the present invention comprises the following steps, presented in the following order for the purposes of teaching and not limitation. Provide a tray container with a means for engagement. Provide an outer sleeve with open ends to form an accessible void, and opposing mating surfaces to interlockingly secure the tray. Align the tray with the open end and orientate the corresponding opposing mating surfaces. Insert the card fully into the void to cause the corresponding opposing mating surfaces to couple or connect. The tray may also have depressions that may be folded and oriented to fill the end of the void and prevent access to the product.